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A STUDY ON THE PERCEPTIONS ABOUT
POTENTIAL ADVANTAGES OF FMS AND
COMMERCIAL SALES: SELLER AND
BUYER PERSPECTIVES

THESIS

Yong Sang Kim
Major, ROKAF

AFIT/GSM/LSY/87S-14

DEPARTMENT OF THE AIR FORCE
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Wright-Patterson Air Force Base, Ohio

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A STUDY ON THE PERCEPTIONS ABOUT POTENTIAL
ADVANTAGES OF FMS AND COMMERCIAL SALES:
SELLER AND BUYER PERSPECTIVES

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Systems Management

Yong Sang Kim, B.S.

Major, ROKAF

September 1987

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Preface

The purpose of this study was to compare the perceptions of a buyer and a seller regarding the potential advantages of Foreign Military Sales (FMS) and Commercial Sales. The buyer and seller were represented by a Purchaser Country Representative (PCR) and a United States Air Force (USAF) Counterpart (USCP) stationed at the International Logistics Center (ILC), and the Multinational Directorate (YPX) of the F-16 System Program Office (SPO).

In completing this thesis, I had a great deal of help from others. First, I would like to thank the PCRs and USCPs who participated in my research effort. I would also like to thank two Korean Air Force officers, Lt Cols Soon Pok Ma and In Sik Kim, who provided a lot of assistance in obtaining data for the research. Finally, I wish to thank Lt Col Jeff Phillips and Capt Mun Hyok Kwon, my thesis reader and advisor, whose guidance and advice facilitated the successful accomplishment of this research project.

Yong Sang Kim

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Abstract

This study attempted to compare the perceptions of a buyer and seller in the Foreign Military Sales (FMS) and Commercial Sales environment of a major system acquisition. Another purpose of the study was to determine if there existed any significant differences in the perceptions of the two parties. The buyer and seller were represented by a Purchaser Country Representative (PCR) and a United States Air Force Counterpart (USCP) stationed at the International Logistics Center (ILC) and Multinational Directorate (YPX) of the F-16 System Program Office (SPO).

The research model for this study was based upon the results of a DSAA study (1985), titled "A Comparison of Direct Commercial Sales and Foreign Military Sales for the Acquisition of U.S. Defense Articles and Services." Opinion data obtained from interviews with 52 USCPs and 32 PCRs were analyzed statistically as well as descriptively.

"Government-to-government obligation" was ranked number 1 by PCR as a motivator for a purchasing country to utilize the FMS channel for major weapon system acquisition while "logistics support" was ranked number 1 by USCP. "Direct negotiation" was ranked number 1 as a motivator for a purchasing country to utilize the Commercial channel for

major weapon system acquisition while "quick response" was ranked number 1 by USCP. Two elements of the potential advantages yielded significant differences in perceptions of the two groups: "logistics support" for the FMS and "direct negotiation" for the Commercial channel.

A STUDY ON THE PERCEPTIONS ABOUT POTENTIAL
ADVANTAGES OF FMS AND COMMERCIAL SALES:
SELLER AND BUYER PERSPECTIVES

I. Introduction

General Issue

Military Export Sales, as a subset of security assistance of the United States, has been a long-standing instrument of American foreign policy. According to the Security Assistance Management Manual (SAMM), the Military Export Sales are:

All levels of defense articles and defense services made from U.S. sources to foreign governments, foreign private firms and international organizations, whether made by DOD or by U.S. industry directly to a foreign buyer. Such sales fall into two major categories: Foreign Military Sales and Commercial Sales [8:B-12].

The two systems are different in style and substance. For Foreign Military Sales (FMS), the U.S. Government (USG) acts as the "middleman." That is, the government of a buyer country contracts with the USG for the procurement of defense equipment made by U.S. firms. However, Commercial Sales are performed through a direct transaction between a purchaser country and a U.S. firm.

According to a Congressional report, the Military Export Sales in fiscal year 1986, including both FMS and Commercial Sales, were about 9 billion dollars (17:363). Although about 65 to 75 percent of the total Military Export Sales are FMS cases (20:6-4), the amount of Commercial Sales have increased at a steady rate as shown in Figure 1. Consequently, there has been

a great deal of discussion about the use of government-to-government FMS, and direct Commercial channel for the acquisition of defense articles and services by friendly and allied countries" [7:1].

In late 1985, the Defense Security Assistance Agency (DSAA), representative agency of the DOD in terms of Security Assistance, the Defense Policy Advisory Committee on Trade (DPACT), consisting of heads of major defense companies, attempted to compare the major issues and considerations of both FMS and Commercial Sales channels. The study was conducted primarily for the following reasons:

From the marketplace viewpoint of a foreign purchaser dealing with the multi-dimensional features of both systems, a variety of perceived advantages and disadvantages are seen to rest in the choice of either acquisition system. These differing system features are often made difficult to assess, sometimes because of misinformation stemming from erroneous impressions, and sometimes because of "shaded" or prejudiced evaluations of each system's relative merits [7:ii].

Even though "complete agreement on every aspect of this paper was not reached between DOD and DPACT" (7:1), the

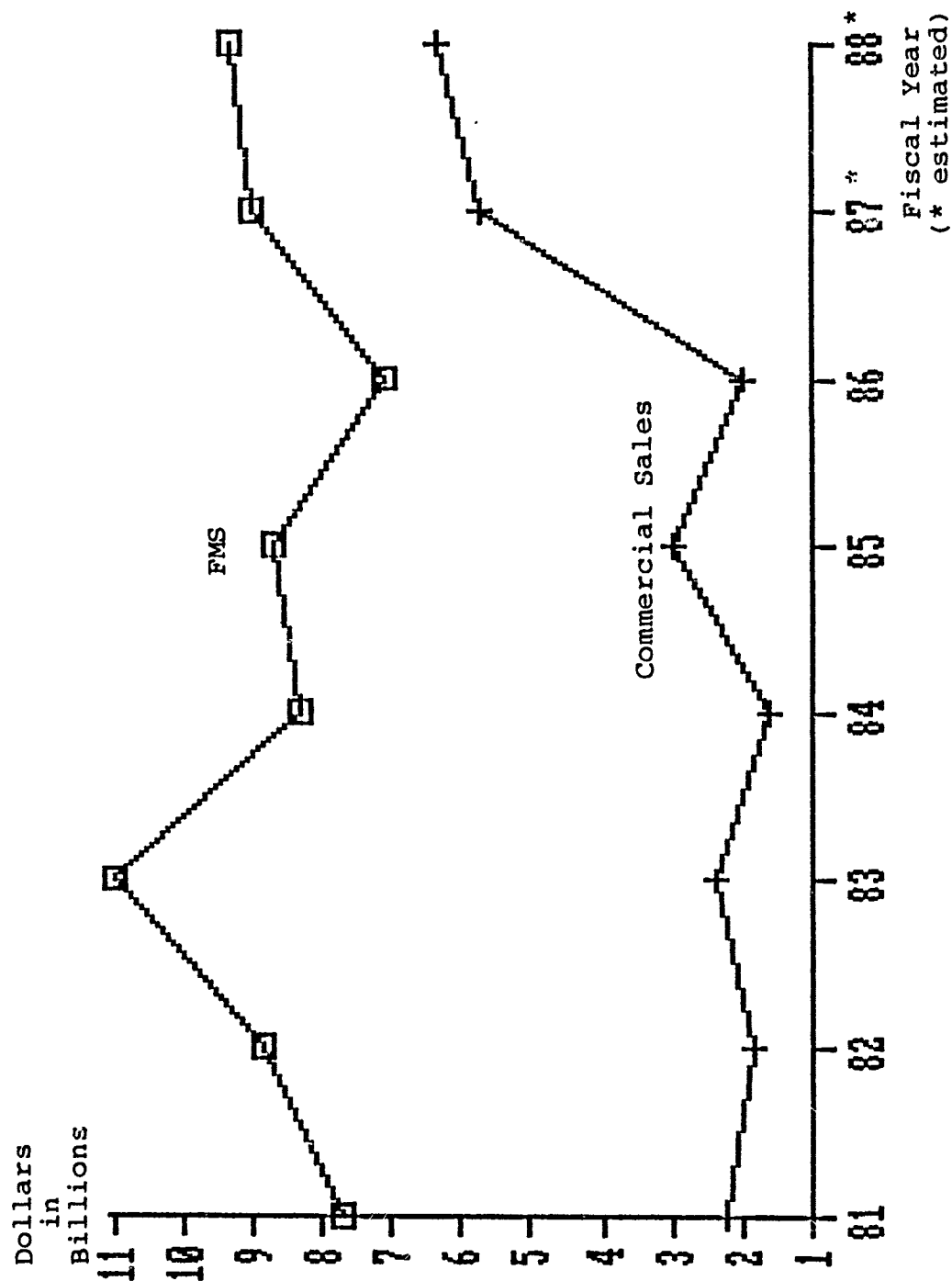


Figure 1. Trend of FMS and Commercial Sales (17:365; 19:82)

study shows some clarified comparisons of both channels. The study was done mainly through discussions between DOD and U.S. industry which participated through DPACT (7:1).

The buyer country is one of the major parties involved in the Military Export Sales. Furthermore, the buyer country decides, although U.S. Government (USG) approval is necessary, which channels go through to meet their defense needs. It is necessary to examine their perceptions of the comparisons the DSAA study made.

These comparisons are based on the Military Export Sales as a whole, i.e., without distinction of different military forces or major/nonmajor weapon system purchases. The DSAA study, in comparing the advantages and considerations between the two channels, did not reveal any possible differences in terms of their relative importance for a specific decision of a purchasing country.

For example, comparisons of each element of the potential advantages of the two systems may be applied with different weights when the purchaser considers purchasing a complicated major weapon system versus a simple piece of support equipment. As a result, the perception and prioritization of the customer country on the comparison factors may vary depending upon the characteristics of the defense articles being considered. Value of purchase, complexity of system, etc., will influence the purchaser.

Research Problem

As long as Military Export Sales functions as an instrument for the security and interest of the United States Government and allied countries, discussions about the two acquisition systems (FMS and Commercial Sales) are expected to continue. As a result, the understanding and perceptions of the two sides (buyer and seller) regarding the potential advantages of the two purchasing channels are significant.

This study was designed to benefit both the seller and the buyer by providing a better understanding about the potential advantages of the two purchasing channels. This clarification will assist the seller in policy-making pertaining to the two systems and will assist the buyer in decision-making as to the selection of a purchasing channel.

This study attempted to compare the perceptions of two groups regarding the potential advantages of FMS and Commercial Sales. Purchaser Country Representative (PCR) are stationed in the International logistics Center (ILC), and Multinational Directorate (YPX) of the F-16 System Program office (SPO) located at Wright-Patterson AFB. Their duties are coordination and liaison between their country and the United States on FMS case management. USAF Counterparts (USCP) work as PCR counterparts in the same organization stated above. The study also attempted to determine whether the perceptions are significantly different.

The scope of the study will focus on the major weapon systems. Because of the significant amount of dollar value, it merits more attention. The study will be beneficial to both seller and buyer by providing them with information about how each of the elements of the two channels are perceived by both sides as well as the extent to which their perception are different.

No previous study was found which addressed this subject as it pertains to the perceptions of both buyer and seller as well as to major weapon system acquisition.

Research Model

The DSAA/DPACT study suggested thirteen (13) potential advantages of FMS and twelve (12) potential advantages of Commercial Sales. To build a model for the research, those items were summarized into six categories respectively.

Potential Advantages of FMS.

- Government-to-Government Obligation
- Use of USG Procurement Procedure
- Established Logistics Support
- Supportability in Times of Emergency
- Promotion of Military-to-Military Relationship
- Standardization

Potential Advantages of Commercial Sales.

- Possible Lower Price
- Offset Provisions
- Quick Response
- Direct Negotiation of Contracts
- Development of Procurement Capability
- Potential for Fixed Delivery and/or Fixed Prices

The two systems also have disadvantages. But, in general, an advantage of one system is considered a disadvantage of the other system. Therefore, this study attempted to examine the perceptions of buyer and seller with respect to the advantages of the two systems.

In addition, some elements of a system may be applied to the other system in some cases. For example, offset provisions can also be negotiated under FMS. Since a purchaser country in that case should negotiate separately with the contractor, it was considered an advantage of the Commercial Sales channel.

Research Questions

According to the research problems stated above, the following research questions were designed.

Research question 1 is related to the perceptions of PCRs and USAF Counterparts (USCPs) about each element of potential advantages of FMS as a motivator for the purchaser to use FMS for major weapon system acquisition.

Research Question 1A. According to USCPs' perceptions, to what extent is each element of the potential advantages of FMS important as a motivator for the purchasing country to choose the FMS channel for the acquisition of a major weapon system?

Research Question 1B. According to PCRs' perceptions, to what extent is each element of the potential advantages of FMS important as a motivator for the purchaser

country to select the FMS channel for the acquisition of a major weapon system?

Research Question 1C. Are there significant differences in the perception of USCPs and PCRs about the degree of relative importance of each element of potential advantages of FMS as a motivator for the purchaser to select the FMS channel for major weapon system acquisition?

Research question 2 is related to the perceptions of PCRs and USCPs about each element of Commercial Sales as a motivator for a purchasing country to select the Commercial channel for major weapon system acquisition.

Research Question 2A. According to USCPs' perceptions, to what extent is each element of the potential advantages of Commercial Sales important as a motivator for the purchasing country to select the Commercial channel for the acquisition of major weapon system?

Research Question 2B. According to PCRs' perceptions, to what extent is each element of the potential advantages of Commercial Sales important as a motivator for the purchasing country to select the Commercial channel for the acquisition of major weapon system?

Research Question 2C. Are there significant differences in the perceptions of USCPs and PCRs about the degree of relative importance of each element of potential advantages of Commercial Sales as a motivator for the purchasing

country to select the Commercial channel for major weapon system acquisition?

Elements of the Research Model

Each of the six elements in the model was used to measure the perceptions of USCPs and PCRs about each element as a motivator for the purchaser to choose one of the two purchasing channels for major weapon system acquisition.

The elements for research questions 1A, 1B, and 1C are explained below:

Government-to-Government Obligation. This term refers to the involvement of the United States Government in the FMS transaction that motivates a purchasing country to select the FMS channel for major weapon system acquisition.

Use of USG Procurement Procedures. This term refers to the use of USG procurement such as Federal Acquisition Regulation (FAR), economic order quantity buys, use of GFE, etc., that motivates a purchasing country to choose the FMS channel for major weapon system acquisition.

Established Logistics Support. This term refers to the follow-on support a purchasing country could capitalize on, i.e., U.S. experience, and existing USG logistics inventories, that motivates a purchasing country to select the FMS channel for major weapon system acquisition.

Supportability in Times of Emergency. This term refers to the availability of items from DOD stocks to support the purchaser in times of emergency, that motivates

a purchasing country to select the FMS channel for major weapon system acquisition.

Promotion of Military-to-Military Relationship. This term refers to the involvement of DOD personnel in requirement determination, operational planning, doctrine development, training, etc., that motivates a purchasing country to select the FMS channel for major weapon system acquisition.

Standardization. This term refers to the standardization of the purchaser to select the FMS channel for major weapon system acquisition.

The elements for research questions 2A, 2B, and 2C are explained below:

Possible Lower Prices. This term refers to the possible lower prices in Commercial Sales that motivate a purchasing country to select the Commercial channel for major weapon system acquisition. Despite a controversy concerning this element as an advantage of Commercial Sales, it is generally accepted with the assumption that there are two or more manufacturers, thus resulting in enough competition from the purchaser's perspective.

Offset Provisions. This term refers to the offset provision and coproduction that motivates a purchasing country to select the Commercial channel for major weapon system acquisition. The offset provision is also possible under FMS. However, because the purchaser should negotiate

separately with the contractor in this case, it is considered an advantage of the Commercial channel.

Quick Response. This term refers to the quick responses from the contractor under the Commercial channel that motivates a purchasing country to select the Commercial channel for major weapon system acquisition.

Direct Negotiation of Contracts. This term refers to the direct negotiation of cost and contract terms between the purchasing country and the contractor that motivates the purchasing country to select the Commercial channel for major weapon system acquisition.

Development of Procurement Capability. This term refers to the development of procurement capability as a result of dealing directly with the contractors, that motivates the purchaser country to select the Commercial channel for major weapon system acquisition.

Research Approach

This research consisted of two parts. First, to obtain background information, the overall processes of FMS and Commercial Sales were overviewed. Also, the two organizations, ILC and YPX of the F-16 SPO were overviewed with focus upon their responsibilities and missions in terms of major weapon system sales. The description of the PCR group was also included in this section.

Secondly, opinion data was obtained through semi-structured interviews with Purchaser Country Representatives

(PCRs) and their USAF Counterparts (USCPs) stationed at the International Logistics Center (ILC) and the Multinational Directorate (YPX) of the F-16 System Program Office (SPO). Then the data was analyzed statistically as well as descriptively to answer the research questions stated previously. The SAS statistical analysis package running on the Classroom Support Computer (CSC) at AFIT was used for the statistical analysis. Research question 1A, 1B, 2A, and 2B were answered by comparing the perceptions of the PCRs and USCPs in terms of the relative importance of each element of the potential advantages of the two purchasing channels. Research questions 1C and 2C were answered by testing the hypotheses stated below.

Hypothesis 1. There is no significant difference between the perception of USCPs and PCRs regarding the degree of importance of each potential advantage of FMS as a motivator for the purchasing country to choose the FMS channel for major weapon system acquisition.

Hypothesis 2. There is no significant difference between the perceptions of USCPs and PCRs regarding the degree of importance of each potential advantage of Commercial Sales as a motivator for the purchasing country to choose the Commercial channel for major weapon system acquisition.

Definition of Terms

Foreign Military Sales (FMS).

A process through which eligible foreign governments and international organizations may purchase defense articles and services from the U.S. Government. The FMS government-to-government agreement is documented on a United States Department of Defense Letter of Offer and Acceptance (DD Form 1513) [5:1].

Commercial Sales.

A process through which eligible foreign government or parties purchase defense articles and services from U.S. firms [5:1].

Major Weapon System.

Any item of significant combat equipment on the United States Munitions List having a nonrecurring research and development cost of more than 50 million or a total production cost of more than 200 million [8:7-1].

Purchaser Country Representatives (PCRs).

Foreign officers stationed at the International Logistics Center (ILC) or the Multinational Directorate (YPX) of the F-16 System Program Office (SPO) whose duties are coordination and liaison between their country and the United States for FMS planning and management.

USAF Counterparts (USCPs).

USAF personnel, either military or civilian, who are stationed at the ILC or the YPX of the F-16 SPO and work as counterparts to PCRs for FMS planning and management.

Data Source

Data for the first part of this research was derived from documents, report, regulations of the DOD, the Defense Security Assistance Agency (DSAA), the Defense Institute of

Security Assistance Management (DISAM), the General Accounting Office (GAO) and interviews with USCPs and PCRs as defined above.

For the second part, the data was collected from semi-structured interviews with PCRs and USCPs at the ILC and the YPX of the F-16 SPO. The criteria for a PCR or a USCP as an interviewee is discussed in Chapter III.

Limitations and Assumptions

The research was limited to the comparison of perceptions about potential advantages of the two purchasing channels with respect to major weapon systems only, because of its significant dollar value affecting the purchaser's decision-making. In addition, the data source for the second part of the research was limited to the ILC and the YPX of the F-16 SPO at Wright-Patterson AFB.

One of the assumptions underlying the research was that USCPs and PCRs were familiar with the process and major issues of FMS and Commercial Sales. Another assumption was that the decision whether to utilize the FMS or Commercial channel was based upon the purchaser's own interest and judgment from evaluating the potential advantages of the two procurement channels.

Plan of Presentation

Chapter I: Introduction. This chapter begins with general issues pertaining to the two types of Military

Export Sales and their descriptions. The chapter continues by presenting research problems, the research approach, the data source, limitations and assumptions of the research.

Chapter II: Literature Review. This chapter will focus primarily on the description of FMS and Commercial Sales processes by reviewing the existing data. First, it overviews the overall process of FMS and Commercial Sales. Secondly, the organization and mission of the ILC and the YPX is introduced and the role of the PCR is also described.

Chapter II: Methodology. This chapter describes the methodology employed in this research. The methodology includes the structure of the interview sheet, the procedure for the interview, and the method of analysis of data.

Chapter IV: Analysis and Findings. By analyzing the quantified opinion data obtained from the interviews, this chapter presents the comparisons of perceptions of the PCR and the USCP about the potential advantages of FMS and Commercial Sales. Based upon these findings, the research questions are answered.

Chapter V: Discussion and Recommendations. This chapter summarizes the major findings of the research and discusses the conclusions which resulted from the findings. Recommendations for future research are also included in this chapter.

II. Literature Review

Introduction

This study attempted to compare the perceptions of the buyer and seller about the potential advantage of FMS and Commercial Sales to determine if significant differences existed. The study also attempted to determine the degree of importance of each element of the potential advantages of the two purchasing channels influencing the buyer country's decision-making to choose one of the two channel.

The buyer and seller were represented by USCP and PCR at International Logistics Center (ILC) and Multinational Directorate (YPX) of the F-16 SPO at Wright-Patterson AFB. To provide background information for the research, this chapter briefly describes the process of FMS and Commercial Sales. It also describes the organization and mission of the ILC and YPX in terms of the FMS process between the U.S. Air Force and the allied countries.

The role of the PCR, which was composed of the Senior National Representative (SNR) assigned at YPX and the Foreign Liaison Officer assigned at ILC, was also introduced. The chapter begins by summarizing the process of FMS in terms of a transaction between the USG/USAF and allied countries and the process of Commercial Sales between U.S. firms and purchasing country.

Foreign Military Sales (FMS)

Government-to-government Foreign Military Sales (FMS) involve a number of agencies of the U.S. Government in the lengthy process of consideration, approval, and sale. As a result of the complexity of the FMS process, many acronyms are used. For the purpose of this study, some of the most commonly encountered acronyms are briefly explained below:

Planning and Review (P&R) Data.

Planning and Review (P&R) data is rough order of magnitude price and availability data to be used by a foreign country or international organization solely for preliminary review and planning purposes for evaluation of the possible purchases of defense articles or services. P&R data is not valid for use in preparation of a Letter of Offer and Acceptance (LOA-DD Form 1513) and will not be provided on a DD Form 1513 [8:71].

Price and Availability (P&A) Data.

P&A data is data which should be detailed to the degree that the information could be transferred without further modification to an LOA. For P&A data without MDE items, the cognizant DOD component must assure that approval has been received from DSAA for preparation and release of the P&A data before providing any data to the requesting country or international organization. The DOD components will provide P&A data to the requesting foreign country or international organization within 60 days after receipt of properly justified requests. Any country request for P&A preparation in a DD Form 1513 will be considered as a request for an LOA [8:7-1, 7-1].

Significant Military Equipment (SME).

Those defense articles and services on the U.S. Munitions List in the International Traffic in Arms Regulations (ITAR) which are preceded by an asterick. SME are articles that require specific export controls because of their capacity for

substantial utility in the conduct of military operation [6:B-24].

Major Defense Equipment (MDE).

A U.S. defense article is considered to be an item of major defense equipment when it is identified as Significant Military Equipment on the U.S. Munitions List and when the U.S. Government has incurred either a nonrecurring research and development cost for the item of more than \$50 million or the item has had total production costs of more than \$200 million. Each DOD component is responsible for identification of MDE items to the DSAA. Once identified as Major Defense Equipment, the item is then recorded on the Major Defense Equipment List (MDEL), which designates equipment for special scrutiny when considered for sale to foreign governments either through FMS or Commercial Sales channels [8:7-2.1].

Letter of Offer and Acceptance (LOA).

The DD Form 1513 LOA is the document authorized to be used by the U.S. Government to offer to sell defense articles and defense services to a foreign country or international organization. The LOA lists the items and/or services, estimated costs, provides the terms and conditions of the sale, and requires the signature of the representative of the foreign country or international organization to indicate acceptance. The DOD component will forward LOAs for DSAA countersignature no later than 60 days after receipt of properly justified requests [8:7-2].

Letter of Request (LOR).

An eligible foreign country or international organization which desires P&R data, P&A data or an LOA from the U.S. Government conveys that desire to the U.S. Government in a Letter of Request (LOR). No specific format is required for an LOR [8:7-4].

Planning Phase. The FMS process between the USG and an eligible country is composed of three phases: (1) planning, (2) implementation, and (3) closure of case. It begins with

a country's specific request to USG for the sale of defense articles or services. The request is sent to the USG in the form of an LOR. The LOR naturally includes requests for costs of items and/or services, and a forecast as to when such items and/or services can be delivered or rendered. Estimates of price and availability information can be categorized into two groups: Planning and Review (P&R) data and Planning and Availability (P&A) data. The P&R estimates are used for planning purposes only while the P&A estimates are actually used when the Letter of Offer and Acceptance (LOA) is processed (20:6-7).

DOD components will provide P&R data to the requesting foreign country or international organizations normally within 45 days after receipt of the request. For MDE items, the cognizant DOD component must assure that approval from DSAA has been received for preparation and release of the P&R data before providing any data to the requesting country or international organization (8:7-1).

As stated above, requests may be for P&R estimates, P&A estimates or for actual offer to sell (LOA). In any case, they categorized as either "Requests Significant Military Equipment (SME)" or "Requests for Other Foreign Military Sales." The SME, as explained above, are defense articles that have a capacity for substantial military utility or capability (5:6). Examples of the SME listed in the

International Traffic in Arms Regulation (ITAR) includes artillery, missiles, tanks, aircraft, and spacecraft (5:5).

"Other Foreign Military Sales" would include nonsensitive and nonclassified items such as supplies, spares, and nonrestricted technical data. Channels for the requests are different depending upon the two categories explained above.

Requests for SME. Requests to purchase SME should be sent vis the U.S. Embassy to the Military Department for action (6:8-2). The U.S. Embassy will send information copies to the applicable U.S. unified command, the Defense Security Assistance Agency (DSAA) and Bureau of Politico-Military Affairs, Department of State.

Requests for All Other Foreign Military Sales.

Requests to purchase NON-SME items or services are sent to the cognizant DOD component. If they originate in country, they may be sent through the Security Assistance Organization (SAO) in country, or the country's representative in Washington DC (6:8-2).

LOA Process. The LOA (DD Form 1513) serves two purposes. It is the vehicle used by the USG to offer defense articles and services to foreign purchasers. It is also the instrument of acceptance (20:6-8).

If customer country elects to pursue the procurement of a system through FMS, he may request a Letter of Offer and Acceptance (LOA) from the USG. The request for an FMS proposal is forwarded through the channels described

earlier. It must ultimately find its way to the cognizant department for the work on an ensuing LOA to begin (6:8-6).

In the USAF, the offices authorized to receive a LOA request are the Directorate of International Programs (HQ, USAF/PRI), and the AFLC International Logistics Center. The office of HQ, USAF/PRI is also responsible for obtaining the necessary detailed data on costs, schedules, configurations and other factors with which to prepare an FMS Proposal (6:8-8). The proposal is coordinated with other activities with collateral interests, as well as with the DOD, the Department of State, and other affected agencies (6:8-8).

Current DOD policy calls for the offer of a major system or item to be complete with regard to repair parts publication, etc. Thus, all supporting material and services should be included in the initial System LOA rather than offered on separate cases (6:8-9).

The LOA is actually written by the implementing service. And it must be written according to the specific DOD directives contained in Chapter 7, Section II of the Security Assistance Management Manual. In the USAF, major system LOAs are written by the Air Force Center for International Programs (AFCIP) (6:8-9).

The LOA itself may run anywhere from a couple of pages for a simple order to 30 or more pages from a complex package; it attempts to spell out in "as much detail as possible what is being ordered" (11:12).

As mentioned earlier, the LOA (DD Form 1513) serves two purposes. First, it is the vehicle used by USG to "offer" defense articles and services to a foreign purchaser. Before the "offer" is completed, it undergoes the DSAA and Department of State review and coordination process. In addition, Congress should be notified of all LOAs designated to sell any defense articles or services for \$50 million or more, or any major defense equipment of \$14 million or more, before such LOAs can be issued (8:7-106). Following this action, if no objections are encountered, and if Congress fails to object to the proposed sale within 30 calendar days, the DSAA Comptroller "countersigns" the DD Form 1513 and forwards it to the cognizant DOD component for submission to the requesting government (6:8-11).

If the LOA is accepted it is signed by an authorized representative of the purchasing government. When duly signed, the DD Form 1513 becomes a binding contract upon both parties. The USG is obligated to deliver the goods and services specified, and the purchaser is obligated to pay the final price (20:6-8). This final price is the actual cost to the purchaser country. This price include accessorial costs and administrative charges.

Implementation Phase. Once an FMS case has been established by completion of a DD Form 1513, Letter of Offer and Acceptance, the sale of military material and services is implemented in accordance with the policies, procedures, and

pertinent DOD Directives. The actual procurement and supply actions for the FMS program are carried out by USG procurement and logistics procedures using largely the same internal management organizations as for USG programs (6:8-12).

For example, in the USAF Systems Command once an FMS program becomes a part of Program Office's responsibility, it is integrated into the Program Office organization and managers are appointed for management of the program (9:3-2). Program directors and system managers serve as an interface with other organizations involved in managing the program.

The F-16 System Program Office at Wright-Patterson AFB is a good example of managing a major system acquisition for the USAF as well as the sale of major weapon system to the allied countries through the FMS channel (14). The DOD 5105.38-M, Security Assistance Management Manual (SAMM) sets forth the responsibilities, policies and procedures governing the implementation of security assistance including FMS.

Closure of Case. The FMS case is referred to as "closed" when all items and services listed in the LOA have shipped and billed and when all bills containing these items and services have been paid (6:8-15).

Commercial Sales

Foreign Military Sales are government-to-government transactions. In contrast, direct Commercial Sales occur

when a U.S. firm sells directly to a foreign government or international organization. According to a DSAA report, Commercial Sales from 1976-1985 comprised only about 17 percent of the total FMS and Commercial Sales (4:10,36).

DOD Policy. Under the current policy, "DOD generally has no preference as to whether a foreign country satisfies its requirements for U.S. origin defense articles through FMS or on a direct Commercial basis" (8:6-20).

Furthermore, DOD components should not engage in an effort to compare the FMS and Commercial channels when requested by a foreign government (8:6-21). Except for the items specified in Section II, Chapter 6 of the Security Assistance Management Manual (SAMM), the purchasing country makes the decision regarding its purchasing channel.

USG Control on Commercial Sales. Because Commercial Sales are also a part of Military Export Sales, that is, an implementing tool of security assistance policy of the United States, they are governed by USG laws. Commercial export of military equipment is regulated by a U.S. Government licensing process prescribed in the International Traffic in Arms Regulations. The export control system's three principal functions are to:

- identify technologies and products that need to controlled,
- review and evaluate export license applications,
- enforce export controls [18:8].

The Office of Munitions Control (OMC) licensing process is in some ways the most important link in the Commercial Sales process (11:19).

Commercial Sales Channel. Because Commercial Sale of arms, from the U.S. perspective, is a part of security assistance and a tool of foreign policy, it is controlled by USG laws, as mentioned earlier. Except for the part of USG control, the Commercial Sales process is almost similar to the trade process of any goods or services between the two countries.

Because Commercial Sales basically do not involve U.S. Government, the process is less complex than the FMS process. In this sense, quicker response time between purchaser and seller is considered one of the potential advantages of Commercial channel. Commercial Sales can occur either U.S. firm-to-foreign government or U.S. firm-to-foreign firm. However, the process of the two cases are almost identical except that the purchasing country's embassy is involved in the U.S. firm-to-foreign government Commercial Sales.

Example of Greek Air Force. The Greek Air Force contracted with General Dynamics for the procurement of 40 F-16 fighter aircraft. The Greek decision to utilize the Commercial channel for the F-16s was due to 100 percent offset provision and a quicker delivery schedule (2; 11:21). It is expected that the first delivery of the F-16s will

begin in May, 1988. Currently, some Greek Air Force officers are assigned to General Dynamics for the production management of airframes and at General Electric for the engine production (2).

International Logistics Center (ILC)

Mission and Organization. The International Logistics Center (ILC) is the U.S. Air Force Logistics Command's (AFLC) focal point for security assistance programs (12:1). The ILC provides support for more than 8000 aircraft including 160 different models of more than 60 countries worldwide (12:1). According to AFLC Regulations 23-14, the ILC is charged with these responsibilities:

- Develop and maintain programs for, and provide management and surveillance of, USAF/AFLC Security Assistance programs and services approved by the U.S. Government [1:1-3].
- Provide interface and liaison with the foreign customer countries participating in the Cooperative Logistics Supply Support Arrangements program to identify and recommend follow-on support requirements [1:1-3].
- Provide price and availability studies, planning and review estimates, financial planning and management for Foreign Military Sales cases prepared by HQ USAF [1:1-3].

In short, the ILC integrates and coordinates security assistance activities of the USAF Logistics Command (AFLC). Organization of the ILC is divided into four deputates. The deputates and their responsibilities are as follows:

Deputy for Plans, Policy and Management Systems (XM).

This deputates develops policy and procedures, implements plans, and establishes special projects to assist the ILC commander in managing the security assistance program. It also manages ILC personnel, financial, and information resources [12:3].

Deputy for Acquisition Programs (AW).

This deputate assists the commander and the two geographic deputies (discussed below) in the management of security assistance programs. Its people direct the preparation of Planning and Review data (P&R), Price and Availability (P&A) data, and Letters of Offers and Acceptance (LOA) for major systems sales. In addition, it provides individual weapon system expertise, and plans, directs, and performs studies of foreign governments and logistics systems to assess capabilities and vulnerabilities, and to evaluate their infrastructure with request to the absorption of weapon systems and high technology [12:3].

Deputy for European, African, and Middle East Program (EC).

This geographic deputate is responsible for the logistic support of security assistance programs for more than 32 foreign countries and agencies. It is charged with the negotiation, implementation, financial control, and follow-on management of \$8.7 billion in Foreign Military Sales (FMS) and military assistance program transfers [12:3].

Foreign Liaison Officers. Twenty-three foreign countries maintain their foreign liaison officers in the ILC. This allows their representatives to interface daily with the ILC people working on FMS programs for their countries (12:4, 15). The countries with liaison officers stationed in the ILC are Argentina, Australia, Belgium, Brazil, Canada, Egypt, Germany, Greece, Indonesia, Israel, Japan,

Korea, Norway, Portugal, Republic of China, Saudi Arabia, Singapore, Spain, Taiwan, Thailand, Turkey, United Kingdom, and Venezuela.

Directorate of Multinational Program (YPX)

Mission and Organization. A part of USAF Systems Command's (AFSC) mission involves the development, procurement, and sale of aircraft, armaments, and electronic equipment to friendly countries. From a management perspective, these activities can reduce USAF unit costs and support U.S. foreign policy and national interests (20:5-6, 16:21-24).

When an FMS case for a major weapon system becomes a part of a Program Office's (PO) responsibility, it is integrated into the PO organization. In the F-16 SPO, the Directorate of Multinational Programs (YPX) functions as a focal point of the F-16 FMS sales. It was originated by the Memorandum of Understanding (MOU) signed by the United States Government and four other European countries (Belgium, Denmark, The Netherlands, and Norway) (23:7). By the MOU, the responsibilities of managing the F-16 multinational program became the responsibility of the F-16 SPO of the AFSC. The YPX is responsible for: (1) planning and management of coproduction programs of the F-16, and (2) planning and management of F-16 FMS programs between the United States and four European Participating Governments (EPG) (22).

Senior National Representative (SNR). From the beginning of the F-16 multinational program, four European Participating Governments (EPG) assigned a number of specialists to the F-16 System Program Office (SPO) at Wright-Patterson AFB. According to the Memorandum of Understanding between the Government of the United States (USG) and the Government of Belgium, Denmark, The Netherlands, and Norway:

Those personnel are fully integrated into the F-16 SPO and perform appropriate duties assigned to the functional staff. In addition each EPG will appoint one officer as its Senior National Representative (SNR) who will have special duties, obligations, rights and authorities [24:1].

As the FMS program of F-16s expands to other allied countries, numbers of SNRs have also increased. Currently, the countries that assign SNRs in the Multinational Directorate of F-16 SPO are Belgium, Denmark, The Netherlands, Norway, Israel, Egypt, Korea, Turkey, and Singapore. Although the last five countries joined YPX as their countries decided to buy F-16s through FMS, SNRs from the countries still perform almost the same functions as SNRs' from EPG countries because the F-16 continues to develop and change (14). Duties and responsibilities of SNRs are summarized next:

- The SNR will oversee the F-16 weapon system development, production, delivery, and the related logistics support for his country. This will be performed in close cooperation with the System Program Director (SPD) and with due interface with the other SNRs. He will be the focal

point of contact between the SPO and his government and will obtain the necessary background, instructions, and directives in order to make timely decisions on behalf of his government in F-16 program matters [24:1-2; 13].

- The SNR will monitor the development and production programs and will provide, as appropriate, information on actual or potential deviations in costs, quality or schedule [24:1-2; 13].

In short, the role of SNRs is vital to the F-16 program management because, unlike other major weapon system development of the USAF, a number of countries are involved and the development of F-16 still continues. In fact, research shows that one of the reasons for the successful F-16 program is the effective communication among participating countries through SNRs (10:7).

III. Methodology

Introduction

The research method for the study was to conduct opinion surveys using a semi-structured interview instrument. Two different worksheets were used to collect opinion data from two groups representing buyer and seller in the FMS and Commercial Sales environment between the United States and allied countries.

Population

To define the two populations for this research, two organizations at Wright-Patterson Air Force Base were selected. These organizations were the International Logistics Center (ILC) and the Multinational Directorate (YPX) of the F-16 System Program Office (SPC). These represent the two primary groups in the USAF in terms of: (1) FMS planning and management, and (2) a significant number of Purchaser Country Representatives (PCR) co-located and working with their USAF counterparts (USCP).

Population 1. Population 1 refers to a set of USAF officers with one or more years' experience in their current office and civilians of GS-13 classification and above. These individuals work in the ILC or YPX with PCRs for FMS-related matters. Approximately 150 individuals met the above criteria. With the assistance of Korean officers

assigned at ILC and YPX, a total of 52 individuals were interviewed by the researcher to collect the opinion data representing the seller side.

Population 2. Population 2 refers to a set of foreign officers and civilians of GS-13 classification and above. These individuals are assigned at ILC or YPX of F-16 SPO to represent their country in terms of FMS planning and management. Approximately 50 people met the necessary criteria. With the assistance of Korean officers assigned at ILC and YPX, a total of 32 people were interviewed by the researcher to collect the opinion data representing the buyer side. The 25 countries that currently assign one or more individuals to ILC or YPX of the F-16 SPO are: Argentina, Australia, Belgium, Brazil, Canada, Denmark, Egypt, Germany, Greece, Indonesia, Israel, Japan, Korea, The Netherlands, Norway, Portugal, the Republic of China, Saudi Arabia, Singapore, Spain, Taiwan, Thailand, Turkey, the United Kingdom, and Venezuela.

Interview Instrument

The interview instrument designed by the researcher consisted of 16 interview questions. The interview questions are divided into two parts. Interview questions 1, 14, 15, and 16 were designed to obtain opinion data for descriptive analysis about the length of experience, perception on the trend of FMS and Commercial Sales, and other comments. The remainder of the questions were designed to

measure responses on a five-point scale, with five being the strongest. These responses measured interviewees' perceptions regarding the potential advantages of the FMS and Commercial channels in the purchase of major weapon systems.

Questions were designed on the basis of the result of a DSAA study titled "A Comparison of Direct Commercial Sales and Foreign Military Sales for the Acquisition of U.S. Defense Articles and Services" published in October 1985. The thirteen (13) potential advantages of FMS and the twelve (12) potential advantages of Commercial Sales described in the study were summarized into six (6) categories, respectively.

Each question was constructed so as to allow each respondent to reply with a minimum of difficulty and a maximum of applicability. The interview was conducted in a semi-structured manner so that responses to the questions could be qualified and refined by the respondent and the interviewer in order to eliminate or minimize common errors such as leniency and halo effects.

Procedure

Letters of request for interview were sent to the appropriate authorities in the two organizations. After the requests were approved, the researcher was introduced to the individuals on the interviewee list. Two Korean officers assigned at the two organizations made the introductions.

As shown in Appendices A and B, two sets of interview instruments were used. The first consisted of interview questions (Appendix A). The second was a worksheet designed to collect data from respondents (Appendix B). Before each interview, an explanation of the purpose of the study and the importance of each interviewee's contribution to its success was provided. All of the respondents were familiar with the research topic and were very cooperative. Obtaining data from Population 1, approximately 150 individuals, was relatively easy compared to obtaining data from Population 2, which had a size of approximately 50.

Analysis of Data

The Statistical Analysis System (SAS) was used to analyze the data obtained from interview questions 1 through 13. After collecting opinion data, ratings from both USCPs and PCRs were manually input into the SAS data file. The data file was analyzed by using SAS subprograms including PROCEDURE MEANS, PROCEDURE FREQUENCY, PROCEDURE T-TEST. To answer research questions 1A, 1B, 2A, and 2B, PROCEDURE MEANS AND PROCEDURE FREQUENCY were used. To answer research questions 1C and 2C, PROCEDURE T-TEST was used. The T-TEST procedure computes a t-statistic for testing the hypothesis that the means of two groups of observations in a SAS data set are equal (21:217).

The significance level for testing the statistical null hypothesis stated in Chapter I was 0.01. Because the six

elements of each purchasing channel were not completely independent of each other, the significance level was divided by the number of t-test, 6. Thus, the significance level actually used for hypothesis testing was 0.0017.

IV. Analysis and Findings

Introduction

The opinion data was obtained from 32 Purchaser Country Representatives (PCRs) and 52 U.S. Counterparts (USCPs). The two groups work in the International Logistics Center (ILC), and Multinational Directorate (YPX) of the F-16 System Program Office (SPO). Using the opinion data, t-tests, or comparison of means, were performed to determine if any significant differences in perceptions of the two groups existed on any of the elements of potential advantages of FMS and Commercial Sales. Also, each element of the two purchasing systems was ranked by its mean scores rated by the two groups. The opinions and comments obtained for interview questions 14 and 15 were descriptively analyzed.

Length of Experience of the Two Groups

The two groups, PCR and USCP, were familiar with the research topic. Each group was characterized by long periods of experience in positions related to FMS and/or Commercial Sales. In fact, the average length of experience of PCR in the position related to FMS and/or Commercial Sales was 5.7 years and 7.3 years for USCP.

Tendency of Rating

During the interviews concerns about biased ratings were expressed by both PCR and USCP. USCPs expressed concern that PCRs would be biased for Commercial Sales. Conversely, PCRs expressed concern that USCP would be biased for FMS. Table I shows mean scores for overall elements of FMS and Commercial Sales rated by the two groups. FMS yielded a higher mean score for USCP than PCR. Commercial Sales yielded a higher mean score for PCR than USCP. However, there were no significant differences between the two mean values at alpha level 0.001.

Table I
T-Tests for Tendency of Ratings by USCP and PCR

	USCP		PCR		t	P-value
	Mean	S.D	Mean	S.D		
FMS	3.86	1.010	3.56	1.243	1.2211	0.2255
Commercial Sales	3.25	1.100	3.75	1.191	-1.9596	0.0534

Perceptions About FMS

Frequency of Responses. Table II shows an overview of responses by USCP and PCR on the ratings of each element of the FMS purchasing channel. The two groups were asked to rate each element of potential advantages of FMS in terms of

Table II

Frequency of Responses by USCP and PCR about the
Elements of FMS by the Degree of Importance in
Purchaser's Decision-Making

Element	Group	Scores (1-5)				
		1	2	3	4	5
GOTOGO	USCP	3/5.8	2/3.9	13/25	17/32.7	17/32.7
	PCR	2/6.3	6/18.8	4/12.5	7/21.9	13/40.6
USGPROC	USCP	4/7.7	8/15.4	14/26.9	14/26.9	12/23.0
	PCR	3/9.4	3/9.4	8/25.0	13/40.6	5/15.6
LOGSUP	USCP	0/0	1/1.9	7/13.5	22/42.3	22/42.3
	PCR	2/6.3	4/12.5	9/28.1	9/28.1	8/25.0
EMERG	USCP	3/5.8	7/13.5	10/19.2	16/30.8	16/30.8
	PCR	4/12.5	2/6.3	15/46.9	5/15.6	6/18.8
MILTOMIL	USCP	1/1.9	5/9.6	15/28.9	17/32.7	14/26.9
	PCR	5/15.6	5/15.6	7/21.9	8/25.0	7.21.9
STAND	USCP	2/3.9	2/3.9	12/23.1	21/40.4	15/28.9
	PCR	3/9.4	3/9.4	7/21.9	11/34.4	8/25.0

NOTE: Percentages rounded up
Sum not equal to 100

GOTOGO: Government-to-Government Obligation
USGPROC: Use of USG Procurement Procedure
LOGSUP: Established Logistics Support
EMERG: Supportability in Times of Emergency
MILTOMIL: Promotion of Military-to-Military
Relationship
STAND: Standardization

degree of importance as a motivator for the purchaser country to choose FMS channel for major weapon system acquisition. The ratings were scored on the five-point scale with five being the strongest.

Rankings of Potential Advantages of FMS. Research question 1A stated: According to USAF Counterparts' (USCPs) perceptions, to what extent is each element of potential advantages of FMS important as a motivator for the purchaser country to decide to use FMS channel for the acquisition of major weapon system? To answer the question, USCPs were asked to rate each element of potential advantages of FMS by its significance in the decision-making of the buyer country when it was decided to utilize the FMS channel for the acquisition of a major weapon system.

Research question 1B stated: According to Purchaser Country Representatives' (PCRs) perceptions, to what extent is each element of potential advantages of FMS important as a motivator for the purchaser country to decide to use the FMS channel for the acquisition of major weapon system? To answer the question, PCRs were asked to rate each element of potential advantages of FMS by its significance in the decision-making of buyer country when it was decided to use the FMS channel for the acquisition of major weapon system.

The purpose of research questions 1A and 1B was to determine how each element of the potential advantages of FMS was weighed, according to USCPs' and PCRs' perceptions,

by its significance in the purchaser's decision-making process. Table III shows rankings of each element of potential advantages of FMS rated by USCP and PCR.

Table III
Rankings of Potential Advantages of FMS

Element	USCP			PCR		
	Mean	S.D.	Rank	Mean	S.D.	Rank
GOTOGO	3.83	1.12	3	3.72	1.35	1
USGPROC	3.42	1.23	6	3.44	1.16	4
LOGSUP	4.25	0.76	1	3.53	1.19	3
EMERG	3.67	1.22	5	3.22	1.21	5.5
MILTOMIL	3.73	1.03	4	3.22	1.39	5.5
STAND	3.87	1.01	2	3.56	1.24	2

Logistics support was ranked number 1 by USCP as a factor that motivates a purchaser country to use the FMS channel while it was ranked number 3 by PCR.

Government-to-government obligation was ranked number 1 by PCRs while it was ranked number 3 by USCP. Standardization was ranked number 2 by both USCP and PCR.

The implications of these differences will be discussed later. Although not significant as discussed earlier, five elements yielded higher scores for the USCPs than for the

PCRs: government-to-government obligation, established logistics support, supportability in times of emergency, promotion of military-to-military relationship, and standardization.

Tests for the Comparison of Perception. Research question 1C stated: Are there significant differences in the perceptions of USCPs and PCRs about the degree of importance of each element of potential advantages of FMS as a motivator for the purchaser country to use the FMS channel for major weapon system acquisition? To answer the question, a hypothesis was formulated and tested for each element. The significance level was 0.01, but due to interdependency among elements, it was divided by the number of t-tests, 6, as discussed in Chapter III. Table VI shows the results of the t-test performed on each element of FMS channel.

Only one element yielded significant differences in perceptions between USCPs and PCRs: logistics support. A possible explanation may be the recent trend, as provided by some interviewees from both USCPs and PCRs. This trend indicates that a purchasing country separates, in its decision-making regarding the major weapon system acquisition, the initial purchase of the system from a purchase of follow-on logistics support. The purchase of Greek F-16s provides a good example for this case. The Greek Air Force purchased F-16s through the Commercial

Table IV

T-Tests for Perceptions of USCP and PCR about Each
Element of Potential Advantages of FMS

	USCP		PCR		t	P-value
	Mean	S.D	Mean	S.D		
GOTOGO	3.82	1.12	3.72	1.35	0.3981	0.6916
USGPROC	3.42	1.23	3.44	1.16	-0.0534	0.9576
LOGUP	4.25	0.76	3.53	1.19	3.3739	0.0011*
EMERG	3.67	1.22	3.22	1.21	1.6652	0.0997
MILTOMIL	3.73	1.03	3.22	1.39	1.9353	0.0564
STAND	3.87	1.01	3.56	1.24	1.2211	0.2255

* Rejected at $\alpha/6 = 0.0017$

GOTOGO: Government-to-Government Obligation
 USGPROC: Use of USG Procurement Procedure
 LOGSUP: Established Logistics Support
 EMERG: Supportability in Times of Emergency
 MILTOMIL: Promotion of Military-to-Military
 Relationship
 STAND: Standardization

channel while follow-on logistics support is to be purchased through the FMS channel.

Perceptions About Commercial Channels

Frequency of Responses. Table V shows overall frequencies of responses by USCPs and PCRs on the ratings of each element of the Commercial purchasing channel. The two

groups were asked to rate each element of potential advantages of Commercial Sales in terms of the degree of importance as a motivator for the purchaser country to choose the Commercial channel for major weapon system acquisition. The ratings were scored on the five-point scale with five being the strongest.

Rankings of Potential Advantages of Commercial Channels. Research question 2A stated: According to USAF Counterparts' (USCP) perceptions, to what extent is each element of potential advantages of Commercial Sales important as a motivator for the purchaser country to decide to use the Commercial channel for the acquisition of major weapon system?

To answer the question, USCPs were asked to rate each element of potential advantages of Commercial Sales by its importance in the decision-making process of the buyer country when it was decided to use the Commercial channel for the acquisition of a major weapon system.

Research question 2B stated: According to Purchaser Country Representatives' (PCRs) perception, to what extent is each element of potential advantages of Commercial Sales important as a motivator for the purchaser country to decide to use the Commercial channel for the acquisition of major weapon system?

To answer the question, PCRs were asked to rate each element of potential advantages of the Commercial channel by

Table V

Frequency of Responses by USCP and PCR about the
Elements of Commercial Sales by the Degree of
Importance in Purchaser's Decision-Making

Element	Group	Scores (1-5)				
		1	2	3	4	5
LOWERPR	USCP	2/3.9	10/19.2	14/26.9	11/21.2	15/28.9
	PCR	1/3.1	3/9.4	5/15.6	10/31.3	13/40.6
OFFSET	USCP	2/3.9	4/7.7	14/26.9	20/38.5	12/23.1
	PCR	2/6.3	7/21.9	5/15.6	7/21.9	11/34.4
QUICK	USCP	1/1.9	3/5.8	11/21.2	12/23.1	25/48.1
	PCR	0/0	2/6.3	8/25.0	11/34.4	11/34.4
DIRECT	USCP	3/5.8	12/23.1	9/17.3	13/25.0	15/28.9
	PCR	0/0	1/3.1	3/9.4	8/25.0	20/62.5
PROCAP	USCP	3/5.8	12/23.1	18/34.6	13/34.6	1/1.9
	PCR	8/25.0	3/9.4	14/43.8	7/21.9	0/0
FIXED	USCP	3/5.8	10/19.2	17/32.7	15/28.9	7/13.5
	PCR	2/6.3	2/6.3	9/28.1	8/25.0	11/34.4

NOTE: Percentages rounded up
Sum not equal to 100

LOWERPR: Possible Lower Prices
OFFSET: Offset Provisions
QUICK: Quick Responses
DIRECT: Direct Negotiations of Contract
PROCAP: Development of Procurement Capability
FIXED: Fixed Delivery Schedule and/or Fixed Prices

its importance in the decision-making process of the buyer country when it was decided to use the Commercial channel for the acquisition of major weapon system.

The purpose of the research question 2B was to determine how each element of potential advantages of the Commercial channel was weighed by its importance in the decision-making process of buyer country. The rankings of potential advantages of Commercial Sales based upon mean scores rated by USCP and PCR are shown in Table VI.

Quick response was ranked number 1 by USCPs as a factor to motivate a purchaser country to use the Commercial channel while it was ranked number 2.5 by PCRs. Direct negotiation of contracts was ranked number 1 by PCRs while it was ranked number 4 by USCPs. Although not significant, as discussed earlier, the mean of potential advantages of Commercial Sales yielded higher score for PCRs than for USCPs.

Tests for the Comparison of Perceptions. Research question 2C stated: Are there significant differences in the perceptions of USCPs and PCRs about the degree of relative importance of each element of potential advantages of the Commercial Sales as a motivator for the purchaser country to use the Commercial channel for major weapon system acquisition? To answer the question, a hypothesis was formulated and tested for each element using t-test at

Table VI

Rankings of Potential Advantages of Commercial Sales

Element	USCP			PCR		
	Mean	S.D.	Rank	Mean	S.D.	Rank
LOWERPR	3.52	1.21	3	3.97	1.12	2.5
OFFSET	3.69	1.04	2	3.56	1.34	5
QUICK	4.10	1.05	1	3.97	0.93	2.5
DIRECT	3.43	1.29	4	4.47	0.80	1
PROCAP	3.04	0.95	6	2.63	1.10	6
FIXED	3.25	1.10	5	3.75	1.19	4

LOWERPR: Possible Lower Prices

OFFSET: Offset Provisions

QUICK: Quick Responses

DIRECT: Direct Negotiations of Contract

PROCAP: Development of Procurement Capability

FIXED: Fixed Delivery Schedule and/or Fixed Prices

alpha = 0.01. However, as mentioned earlier, it was divided by the number of t-test, 6, thus yielding 0.0017.

Hypothesis 2 stated: There is no significant difference in the perception of USCPs and PCRs about the degree of importance of each element of potential advantages of the Commercial channel as a factor to motivate a buyer country to use the Commercial channel for major weapon system acquisition. Table VII shows results of t-tests performed on each element of Commercial Sales based upon mean scores rated by USCPs and PCRs.

Table VII

T-Tests for Perceptions of USCP and PCR about the Degree of Importance of Each Element of Potential Advantages of Commercial Channel for Major Weapon System Acquisition

	USCP		PCR		t	p-value
	Mean	S.D	Mean	S.D		
LOWERPR	3.52	1.21	3.97	1.12	-1.6972	0.0934
OFFSET	3.69	1.34	3.56	1.34	0.4967	0.6207
QUICK	4.10	1.05	3.97	0.93	0.5620	0.5757
DIRECT	3.48	1.29	4.47	0.80	-3.8869	0.0002*
PROCAP	3.04	0.95	2.63	1.10	1.8245	0.0717
FIXED	3.25	1.10	3.75	1.19	-1.9596	0.0534

* Rejected at $\alpha/6 = 0.0017$

LOWERPR: Possible Lower Prices
 OFFSET: Offset Provisions
 QUICK: Quick Responses
 DIRECT: Direct Negotiations of Contract
 PROCAP: Development of Procurement Capability
 FIXED: Fixed Delivery Schedule and/or Fixed Prices

Only one element yielded significant differences between perceptions of USCPs and PCRs: direct negotiation of contracts. Direct negotiation was ranked number 1 by PCRs as a factor that motivates a buyer country to utilize the Commercial channel for major weapon system acquisition. Under the current FMS process, a buyer country is not

provided detailed information about transaction. According to the Security Assistance Management Manual:

It is DOD policy to provide a single unit price for articles offered under FMS. It is not normal FMS practice to provide a detailed description of the components of cost included in estimated prices for line items in LOAs. Furnishing any cost breakouts beyond a single unit price requires the DSAA approval. [8:7-36].

However, when a country buys a system through direct contract with U.S. firms, the contractor provides all detailed information including cost data required by the accounting procedure of the purchaser (14).

As discussed frequently during the interviews, a buyer country desires to know more about detailed aspects of a system purchase as long as they pay for it. However, some responses from USCPs indicated that providing all detailed data will eventually cost the purchaser more. This issue will be discussed again later in Chapter V.

Expectations on Each Others' Perceptions

Question 14 stated: In general, do you think there is no significant difference between the perceptions of buyers and seller about the potential advantages of FMS and Commercial Sales for major weapon system acquisition? In other words, do you expect that your foreign or USAF Counterparts will rate each element approximately same as you do?

The purpose of the question was to determine how USCPs and PCRs view each other regarding the degree of importance of each element of potential advantages of the two purchasing channels and the reasons for difference, if any. Table VIII shows the result of responses of USCP and PCR for the question 14.

USCPs' Perspective. The expectation of similar perceptions between each group concerning the potential advantages of the two systems, was higher for USCPs than PCRs. From the USCP's perspective, reasons for no difference between USCPs' and PCRs' perceptions about potential advantages of FMS and Commercial Sales are summarized below:

- All advantages and disadvantages of the two system are well known to both sides.
- USCPs work closely with their foreign counterparts and have many opportunities to discuss the topic with them.
- Most USCPs have long periods of experience in dealing with foreign counterparts.
- PCRs are familiar with USAF acquisition and logistics systems due to their work experience.

Reasons for differences between USCPs' and PCRs' perceptions about potential advantages of FMS and Commercial Sales are summarized below from the USCPs' perspective:

TABLE VIII

Responses for Expectations of Each Others' Perceptions
about Each Element of the Two Purchasing Channels

Response	USCP			PCR		
	N	n	Percent	N	n	Percent
No Difference	52	27	52	32	10	31
Difference	52	25	48	32	22	69

- Buyers feel that they can get a system cheaper while sellers feel that they can better control the sale situation and support.
- Some purchaser countries seem to believe that there is a cost and schedule advantage to go direct Commercial channel, although in the long run, the actual costs may be higher than expected.
- USCPs seem to be biased in favor of FMS as the better system while the buyer always thinks there is a better deal somewhere else.
- Buyers tend to overestimate the contractor's reasonableness as far as price is concerned and to control cost and quality.
- Ratings on each element depend on buyer countries specific circumstances in terms of procurement capability, in-country technological base, self sufficiency, etc.
- The seller is in the most advantageous position. For the buyer, advantages are limited. The long delays, rules, and paperwork delay what should be a speedier process.
- The majority of the FMS customers have not yet experienced the direct relationship between the FMS customer and the commercial contractor. Consequently, they may still have a tendency to rely too strongly on promises made by the

contractor regarding savings and overall sale satisfaction and completion.

PCRs' Perspective. As shown in Table VIII, responses indicated that 69 percent of the PCRs think there are differences in perceptions between USCPs and PCRs on ratings of each element of the potential advantages of FMS and Commercial Sales. Reasons for no difference, which account for 31 percent of the PCRs' responses, are summarized below:

- If USCPs are in the military, then they will perceive those potential advantages of the two system the same way PCRs do.
- USCPs are aware of problems related to the current FMS process while those responsible for the FMS policy making seem to be unaware of the changing attitude of purchaser country the current FMS system.
- Perceptions must be similar. Only the way to do business is different.
- The history of FMS and Commercial Sales has been long enough for both sides to understand about the two systems.

The percentage indicating differences in each other's perception was higher for PCRs than for USCPs. From the PCRs' perspective, reasons for the difference in perception are summarized below:

- The USG as a seller tends to view FMS as a better source for major weapon system acquisition while not admitting the potential advantages of Commercial channel.
- Perception as a seller is inherently different from that as a buyer. As an instrument of U.S.

foreign policy, FMS is more beneficial to the seller than to the buyer.

- USCPs manage much more information and data on FMS than do PCRs. Therefore, the view of those those potential advantages must be rather different.
- It is difficult for USCPs to look at their own system through the eyes of the buyer country.

Future Trends of FMS and Commercial Sales

Question 15 asked: According to a report from DSAA, during 1976-1985, FMS consisted about 83 percent of the total FMS and Commercial Sales. What is your view on the future trend? The results of responses of USCP and PCR are depicted in Table IX.

Table IX

Predictions of USCP and PCR about the Future
Future Trends of FMS and Commercial Sales

Response	USCP			PCR		
	N	n	Percent	N	n	Percent
Decrease in FMS*	52	33	63.5	32	18	56.3
Increase in FMS*	52	1	0.02	32	1	0.03
No Change	52	18	34.6	32	13	40.6

* Note: Decrease/increase in FMS assumed to be equal to increase/decrease in Commercial Sales.

The majority of both USCPs and PCRs predict that FMS will decrease in the future. The question was based on the assumption that decrease/increase in FMS means increase/decrease in Commercial Sales. The percentage indicating decrease in FMS was higher for USCPs than for PCRs.

Reasons for such prediction are summarized into the following categories:

USCPs' Perspective.

- Customer countries are becoming more experienced in the procurement arena and can buy U.S. systems more quickly using the Commercial channel.
- U.S. firms are placing more emphasis upon direct marketing with prospective purchasers.
- FMS will decrease because of the complicated regulations, amount of paper work, slow response, long lead times, additional Logistics Support Charge (LSC).

PCRs' Perspective.

- Increase in purchaser countries' capability to deal directly with U.S. contractors.
- Long lead time, administrative charges including Logistics Support Charge (LSC), restrictive FMS procedure.
- Uncertain delivery schedule and end costs.
- Possible lower prices and offset provisions provided by the Commercial channel.

The percentage indicating no significant change was higher for PCR (40.6) than USCP (34.6). Reasons for such predictions are summarized below:

USCPs' Perspective.

- The countries currently using the FMS channel will continue to do so.
- Most FMS customers will ultimately trust that U.S. can get the better deal for them.
- Still many FMS customers are not familiar enough with the industry to deal directly with the contractors.
- Problems that have arisen in recent Commercial Sales regarding configuration, standardization, and follow-on support will cause the USG to disapprove many of the additional requests for Commercial Sales.
- Government-to-government commitment is stronger than contractor-to-government.

PCRs' Perspective.

- It is better to rely on the USG than on the contractor.
- Standardization with the U.S. forces is still necessary to some countries for the support in times of emergency.
- Procurement through FMS has been a convenient way to purchase defense articles from the U.S.
- FMS countries' desire to increase Commercial purchase will be discouraged by the USG which seems to prefer the FMS channel in Military Export Sales.

V. Discussions and Recommendations

Introduction

As mentioned in Chapter I, there has recently been a great deal of discussion concerning FMS and Commercial Sales used to acquire defense articles from the United States. Based upon the assumption that the potential advantages of the two purchasing systems work as motivators for country to choose one of the two systems, the present study attempted to determine how each element of the potential advantages are perceived by both buyer and seller, as represented by USCPs and PCRs.

FMS has been a primary tool of foreign policy for a long period of time while Commercial Sales has emerged as another major type of conventional arms transfer from the U.S. to allied countries. The study was designed with its focus upon major weapon systems in order to provide better understanding about the two systems for both buyer and seller. For the seller, it can provide more knowledge about what makes a buyer country select either the FMS or Commercial channel for its major weapon system acquisition.

For the buyer, it can also provide better information about how other buyer countries make decisions. The decisions are made by applying relative importance to each factor of potential advantages of FMS and Commercial channels.

To represent the buyers and the sellers, foreign officers and their USAF Counterparts assigned to the International Logistics Center (ILC) and Multinational Directorate (YPX) of the F-16 SPO were interviewed with semi-structured interview instruments. The two groups were selected for the research because, in a typical FMS case for a major weapon system, AFSC and AFLC are two primary implementing Commands of the U.S. Air Force (3:x-15).

Discussion

Perceptions About Potential Advantages of FMS. Group mean for overall potential advantages of FMS yielded higher score for USCPs than for PCRs. As some PCRs expressed during their interviews, it seemed that USCPs were biased in favor of FMS, thus yielding a higher mean score. However, there was no significant difference between the two groups in terms of mean value for overall potential advantages of FMS. Logistics support was ranked number 1 by USCPs while it was ranked number 3 by PCRs. In addition, the element was the only one that indicated significant difference between the ratings of USCP and PCR. The result was somewhat surprising because guaranteed logistics support has been perceived both by buyer and seller as a primary advantage of the FMS channel (6:24-7). It is also supported by the fact that some buyer countries that purchase a system commercially sometimes experience a serious problem in obtaining follow-on support from the manufacturer (14).

A possible explanation for this result may be that the buyer country tends to separate a system itself from follow-on support in its decision-making process. As long as the system that the buyer country considers is used by the U.S. military, the buyer country can purchase follow-on logistics support through FMS, even when the system is purchased commercially.

This explanation is also supported by some USCPs who indicated that recently buyer countries tend to choose the Commercial channel to avoid initial administrative charges on system sales. They later come to FMS for logistics support, even though it is difficult to determine whether it is financially attractive. As mentioned in the previous chapter, the Greek F-16 purchase is a good example of this case. The initial purchase of F-16s was made through the Commercial channel while follow-on logistics support will be purchased through FMS.

Government-to-government obligation was ranked number 1 by PCRs while it was ranked number 3 by USCPs. This indicates that the government-to-government commitment is still perceived by the buyer country as stronger than government-to-contractor commitment. Standardization was ranked number 2 both by USCPs and PCRs, although its mean score was higher for USCPs than PCRs.

Potential Advantages of Commercial Sales. During interviews, USCPs expressed concern that PCRs would be

biased in favor of the Commercial channel. Even though group mean score for all elements of potential advantages of Commercial Sales was higher for PCRs than USCPs there was no significant difference between the two mean values.

Quick responses was ranked number 1 by USCPs while it was ranked number 2.5 by PCRs. During interviews, the three elements most often mentioned by USCPs as factors that motivate the buyer country to choose the Commercial channel, were possible lower prices, offset provisions, and quick response. However, lower prices are not always guaranteed in the Commercial channel and it will be difficult to evaluate this factor until after a significant period of time. Offset arrangements also can be made through the FMS channel although it must be negotiated separately by the purchaser with the contractor.

In addition, USCPs expressed concern about long delay, uncertain delivery schedule and end costs, too many restrictive regulations, and slow response of the FMS process. Therefore, it is not surprising that quick response was perceived by USCPs as the most important reason to motivate a buyer country to go through the Commercial channel.

Direct negotiation (of cost and contract terms) was scored the highest by the PCR group. Under the current FMS process, the USG acts as a middleman who has authority to contract for the buyer country. Furthermore, "it is not normal FMS practice to provide a detailed description of the

components of cost included in estimated prices for line items on LOAs" (9:7-36).

In the Commercial channel, the purchaser country may become fully involved in the contract negotiation. However, it should be equipped with adequate procurement capability, experience in managing complicated major systems, experience in dealing with U.S. contractors and the capability to define requirements. Numerous comments by both USCPs and PCRs indicated that as a buyer country becomes developed and industrialized, it will look for various procurement methods such as Commercial, offset, and coproduction other than existing FMS.

In summary, although (1) the USG has been trusted and effective in managing contracts for purchasing countries, and (2) providing more information costs more to the purchaser, the buyer country wants to be more involved in the FMS process as long as they pay for it.

Expectations on Each Other's Perception. Both USCPs and PCRs were asked if they expected that their counterparts rated the elements of potential advantages of FMS and Commercial Sales as approximately the as they do. Fifty-two percent of USCPs responded that they expected similar perceptions from PCRs with respect to rating of each element of potential advantages of the two channels. But only 31 percent of the PCRs responded that they expected similar perceptions from USCPs. Comments from those 52 percent of

USCPs indicated that there would be no significant difference in perception about the potential advantages of the two systems because they have worked together for a long period of time.

However, comments from 69 percent of the PCRs indicated that their counterparts tend to view FMS as a better system and that the seller cannot evaluate its own system with "the eyes of the buyer." Despite the long history of FMS and Commercial Sales as a subset of security assistance it appeared that there is still a gap between USCPs and PCRs in perceiving the advantages of the two systems.

Expectations on Future Trends. On the assumption that a decrease in FMS means an increase in Commercial Sales and vice versa, USCPs and PCRs were asked about future trends of FMS and Commercial Sales. The percentage predicting a relative decrease in FMS, that is, increase in Commercial Sales, was 63 percent for USCPs and 56 percent for PCRs. In providing the reasons for this view, the two groups were almost in the same position. The prediction of a decrease in FMS is due to the perceived: (1) increase in purchaser's procurement capability, (2) problems in the FMS process as mentioned earlier, and (3) merits of Commercial Sales such as possible lower prices, offset provisions, and coproduction.

Although there were some comments made by USCPs that the purchaser will come back to FMS after they experience

enough direct dealings with contractors, it seems that the relative proportion of Commercial Sales in the total military export sales of the United States would be increased in the near future. The percentage indicating no significant change from the current trend was 40.6 percent for PCR and 34.6 percent for USCP.

Recommendations for Future Study

There are many inherent weaknesses in the present study. The biggest weakness of the study is that opinions of U.S. firms were not included. The relatively small size of population was another weakness. Future study should be conducted to include input from U.S. contractors manufacturing and selling major weapon systems.

With the input from U.S. contractors, which is a principal party involved in FMS and Commercial Sales, and with the larger population size, the research will be improved, and more beneficial to all parties involved.

Appendix A: Interview Instrument

1. How long have you served in the position related to FMS and/or Commercial Sales?
2. The "government-to-government obligation" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
3. The "use of USG procurement procedure" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
4. The "established logistics support" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
5. The "supportability in times of emergency" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
6. The "promotion of military relationship" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
7. The "standardization" is considered one of the potential advantages of FMS. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the FMS channel for major system acquisition?
8. The "possible lower prices" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser

country to choose the Commercial channel for major system acquisition?

9. The "offset provisions" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the Commercial channel for major system acquisition?
10. The "quick responses" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the Commercial channel for major system acquisition?
11. The "direct negotiations of contract" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the Commercial channel for major system acquisition?
12. The "development of procurement capability" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the Commercial channel for major system acquisition?
13. The "potential for fixed delivery and/or fixed price" is considered one of the potential advantages of Commercial Sales. How would you rate it on a five-point scale with five being the strongest in terms of a motivator for the purchaser country to choose the Commercial channel for major system acquisition?
14. In general, do you think there is no significant difference between the perceptions of the buyer and the seller about the potential advantages of the FMS and Commercial channels for major system acquisition? In other words, do you expect that your foreign or USAF counterparts will rate each element approximately the same as you do?

Yes. Why?

No. Why?

15. According to a report from DSAA, during 1976-1985, FMS consisted of about 83 percent of the total FMS and Commercial Sales. What is your view on the trend of FMS and Commercial Sales in the near future?

FMS will decrease (Commercial Sales will increase).
Why?

FMS will increase (Commercial Sales will decrease).
Why?

The ratio will remain approximately the same.
Why?

16. Do you have any other thoughts or comments?

Appendix B: Interview Worksheet

Category: USCP ()
PCR ()

1. How long have you served in the position related to FMS and/or Commercial Sales?

() years

2. Degree of relative importance of each element in purchaser's decision-making in terms of a motivator to choose the FMS channel for major system acquisition.

• Government-to-Government Obligation	1	2	3	4	5
• Use of USG Procurement Procedure	1	2	3	4	5
• Established Logistics Support	1	2	3	4	5
• Supportability in Times of Emergency	1	2	3	4	5
• Promotion of Military Relationship	1	2	3	4	5
• Standardization	1	2	3	4	5

3. Degree of relative importance of each element in purchaser's decision-making in terms of a motivator to choose the Commercial channel for major system acquisition.

• Possible Lower Prices	1	2	3	4	5
• Offset Provisions	1	2	3	4	5
• Quick Response	1	2	3	4	5
• Direct Negotiations of Contract	1	2	3	4	5
• Development of Procurement Capability	1	2	3	4	5
• Potential for Fixed Delivery and/or Fixed Prices	1	2	3	4	5

4. In general, do you think there is no significant difference between the perceptions of the buyer and the seller about the potential advantages of the FMS and the Commercial channels for major system acquisition? In other words, do you expect that your foreign or USAF counterparts will rate each element approximately the same as you do?

Yes. Why?

No. Why?

5. According to a report from DSAA, during 1976-1985, FMS consisted of about 83 percent of the total FMS and Commercial Sales. What is your view on the trend of FMS and Commercial Sales in the near future?

FMS will decrease (Commercial Sales will increase).
Why?

FMS will increase (Commercial Sales will decrease).
Why?

The ratio will remain approximately the same.
Why?

6. Other thoughts or comments?

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Block 19

This study attempted to compare the perceptions of a buyer and seller in the Foreign Military Sales (FMS) and Commercial Sales environment of a major system acquisition. Another purpose of the study was to determine if there existed any significant differences in the perceptions of the two parties. The buyer and seller were represented by a Purchaser Country Representative (PCR) and a United States Air Force Counterpart (USCP) stationed at the International Logistics Center (ILC) and Multinational Directorate (YFX) of the F-16 System Program Office (SPO).

The research model for this study was based upon the results of a DSAA study (1985), titled "A Comparison of Direct Commercial Sales and Foreign Military Sales for the Acquisition of U.S. Defense Articles and Services." Opinion data obtained from interviews with 52 USCPs and 32 PCRs were analyzed statistically as well as descriptively.

"Government-to-government obligation" was ranked number 1 by PCR as a motivator for a purchasing country to utilize the FMS channel for major weapon system acquisition while "logistics support" was ranked number 1 by USCP. "Direct negotiation" was ranked number 1 as a motivator for a purchasing country to utilize the Commercial channel for major weapon system acquisition while "quick response" was ranked number 1 by USCP. Two elements of the potential advantages yielded significant differences in perceptions of the two groups: "logistics support" for the FMS and "direct negotiation" for the Commercial channel.

10/19